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BARRIERS AND BREAKTHROUGHS.

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THERE ARE MANY BARRIERS TO MORE EFFECTIVE SCHOOL ARCHITECTURE SUCH AS (1) ARCHITECTURAL AND EDUCATIONAL PREJUDICE, (2) OBSOLETE CODES, (3) BUILDING COMPLEXITY, AND (4) STATIC THINKING. HOWEVER, THERE HAVE BEEN MANY DEVELOPMENTS IN (1) GROUP PLANNING, (2) LEARNING WALLS AND SPACE DIVIDERS, (3) STUDENT CENTERS, (4) LANDSCAPING, AND (5) HUMANISTIC ARCHITECTURE WHICH TEND TO OFFSET THESE BARRIERS. (JT)

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THERE is no doubt about it—school architecture in the United States has come a long way during the last few years. In fact, many students of architecture believe that more progress has been made in the school field than in any other, including the commercial field which has given us beautiful and functional shopping centers, for example.

A close examination of what has been done in educational architecture shows tremendous progress at the elementary level. During these last five years some classics in elementary school architecture have been produced. And more excellent elementary schools are on the way.

The picture is not so bright at the high school level, but it is a very improved situation. The same planning approach, which produced our nation's good elementary schools, is gradually creeping up to the secondary level. Also, many creative architects are being assigned to do high schools because of their past performance with the smaller schools.

Another encouragement is that school boards are seeing to it that competent, creative educators are available to work with competent, creative architects in solving secondary school building problems. Good architects alone cannot produce excellent schools. Nor can good school administrators do the job alone.

An excellent school plant comes into being through the teamwork of good architects and good educators acting as co-captains of a well balanced architectural-educational team. And today we are getting that kind

THE PROBLEM:

What have we done to give our children better school buildings? What is yet to be done?

Every so often let us take stock of the school plant situation to see where we stand. This report is an evaluation of school architecture as we see it today.

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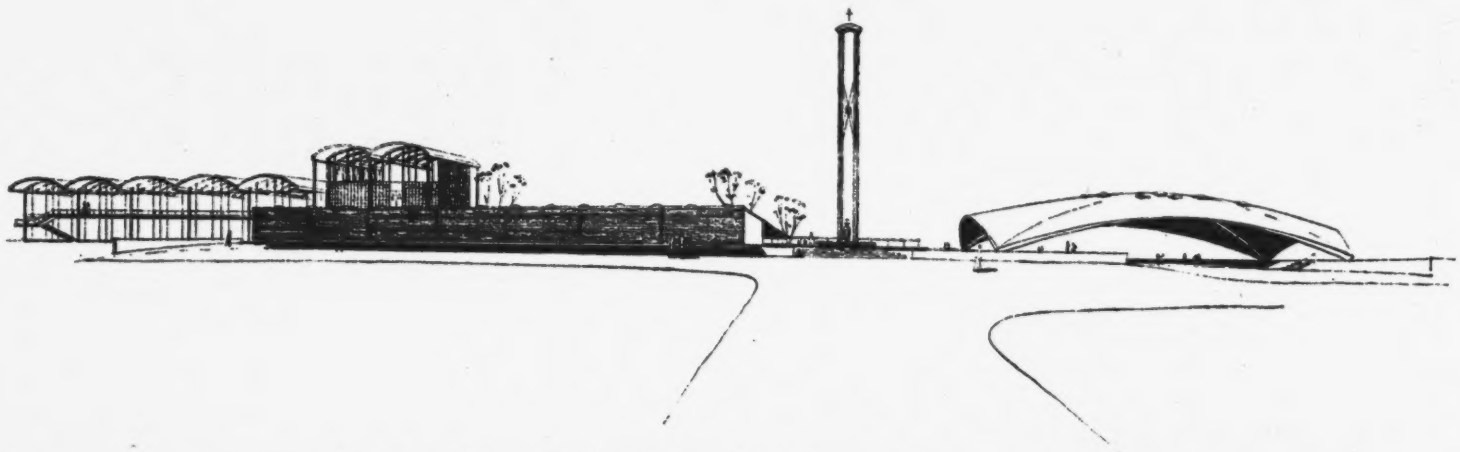


Many economies have come about through good design performed by planners who continually seek better answers. Shown here is St. Joseph Academy, Brownsville, Texas.

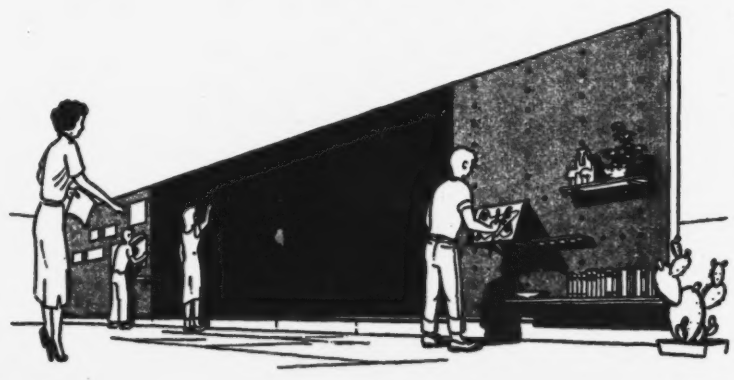
of cooperative planning setup on an encouraging number of proposed high schools.

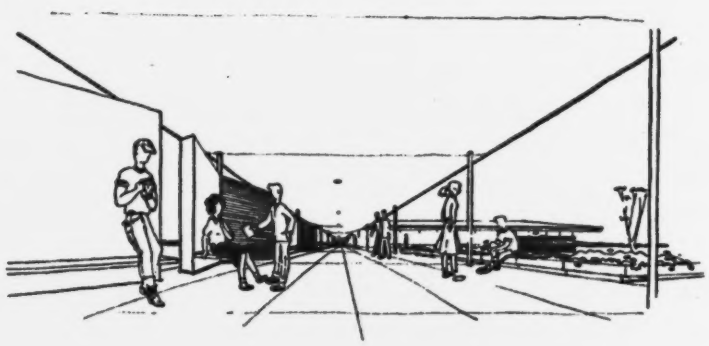
School people and the architects alike have real reason to be proud of this progress. But there is much to be done—many barriers to break through—before we give our children better school plants.

Some Barriers

What are the obstacles to obtaining better schools? These seem to us to be some of the greatest barriers:

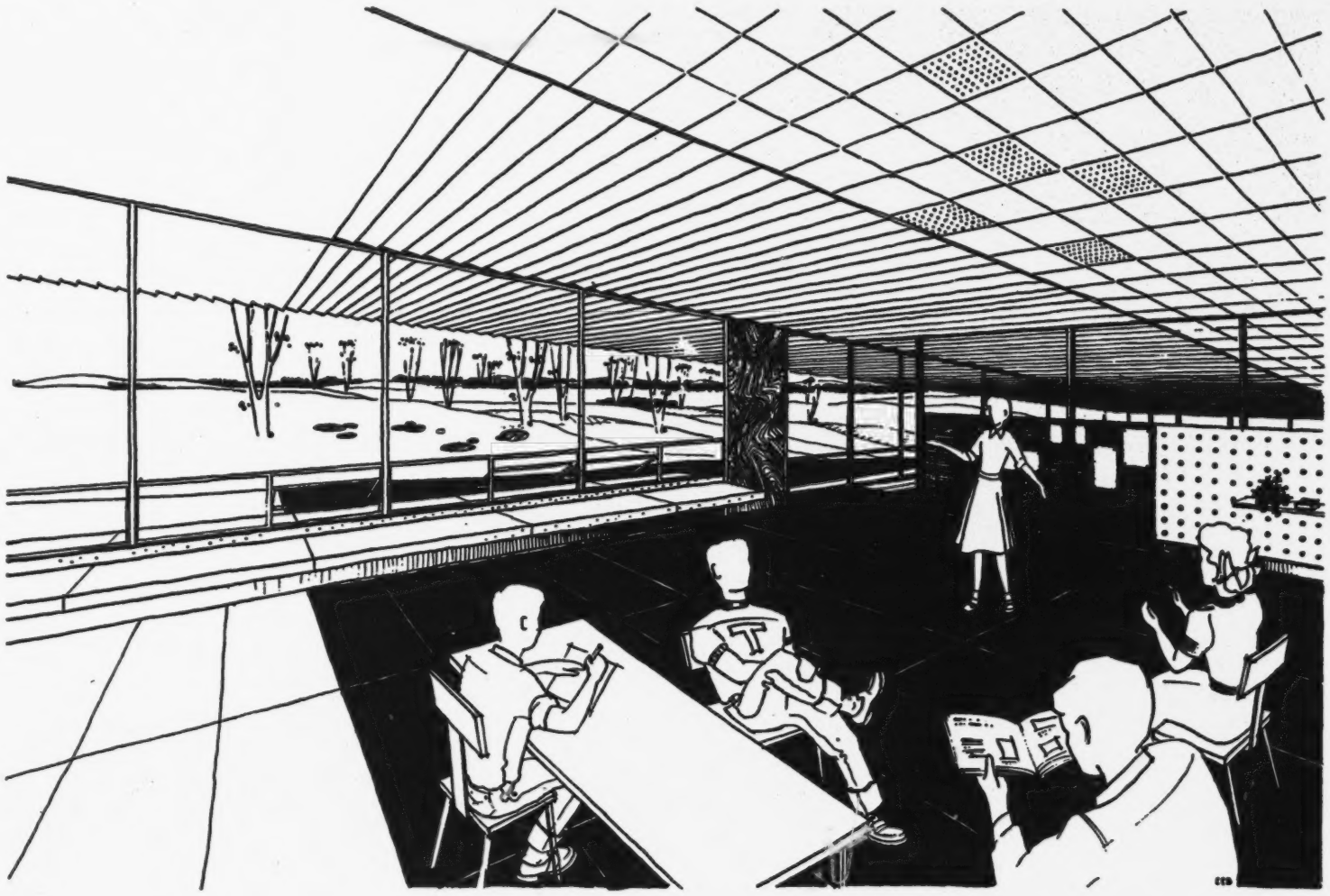
1. ARCHITECTURAL PREJUDICE: Preconceived ideas about what a school should look like, unwillingness to accept a new architecture and the inability to understand our dynamic society, which requires dynamic architecture, are the causes of the expensive sterility of school architecture today.
2. EDUCATIONAL PREJUDICE: The "what's good enough for me is good enough for junior" attitude of people responsible for the education of the community, together with the demands of these same people who insist that their school buildings be as obsolete as their educational programs, create great barriers to school building progress.
3. OBSOLETE CODES: Old codes, even some new ones, and misinterpretations of both often dictate excessive construction expenses. What architecture needs is stimulation, not dictation.
4. SOUND TECHNOLOGY: The use of movable partitions, light wall panel construction, open planning techniques and higher sound level teaching activities make sound problems more difficult to solve.
5. STRUCTURAL TECHNIQUES: Columns get in the way of a changing curriculum, and there is a need for economical structures enveloping large, uninterrupted areas.
6. BUILDING COMPLEXITY: Too many trades step on each other's toes trying to put together too many parts. This makes the building process an expensive and complicated one.





The classroom wall is no longer a mere wall but is a vertical teaching surface—an educational tool. Such is the case in the Laredo Junior High School, Laredo, Texas, (above). Architecture, like that of the Moore Junior High School, Tyler, Texas, (below) can help children to grow and develop normally.

7. SMALL BUILDING UNITS: Thousands of small pieces of material go into an ordinary school building, necessitating high labor cost to put them together. What the architects need are fewer and larger units with which to formulate economical, beautiful school building solutions. And we are not talking about prefabricated schools, or even prefab classrooms, but we are speaking of large prefab building units.
8. INADEQUATE BUILDING UNITS: There is a great need for low cost, low maintenance units such as: (1) window units which fit tight enough to keep out the wind, rain, dust and snow, and which will ventilate properly; (2) a scuffproof flooring material; (3) a multi-use ceiling-deck which also



Research in lighting and ventilation of school buildings has led the way to the use of lower and more economical ceilings over better lighted and better ventilated spaces, as in the Moore Junior High School of Tyler, Texas.

can serve as a roof; (4) better flashing materials; (5) paintless walls; (6) simple and sturdy hardware; (7) less complex heating and plumbing systems and fixtures; (8) a good, low brightness lighting fixture for low ceilings; (9) cheaper and better materials which will alleviate the shortage of wood, brick, steel, concrete and copper; and (10) sympathetic trades to use these improved or new building materials.

9. STATIC THINKING: The use of stock plans and the static thinking behind them is one of the greatest barriers of all. The people who build these barriers must be brought to realize that good design pays off and actually costs less than poor design. The important economies of the day have come about through good design performed by competent planners who seek better answers—not stock answers. 1920 architectural solutions cannot be used for 1960 architectural problems.
10. UNIT COST BUGABOO: The need for an accurate and true yardstick for evaluating school construction cost is urgent, because a great number of school planners are still trying to compare their unit square foot cost as they do their golf scores. Yet, "lower the better" most certainly does not apply to schools, and even if it did the comparison would be worthless because unit cost does not consider such variables as soil conditions, climate, site shape, educational feasibility, quality of fabric, strength of structures and environmental controls.

Some Breakthroughs

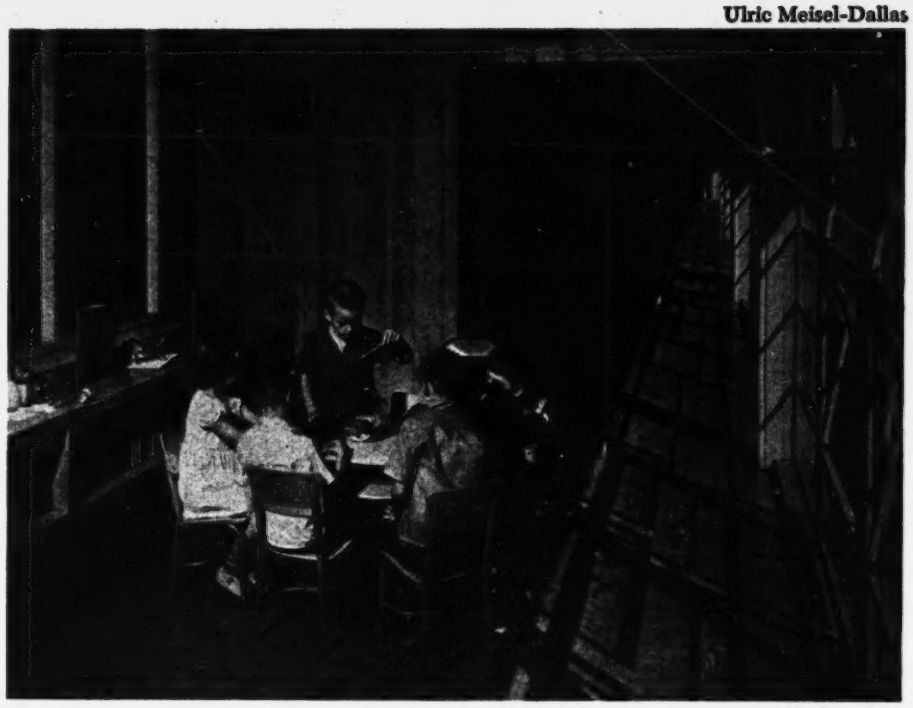
There are, of course, a great number of breakthroughs to offset the barriers. Some of the breakthroughs represent isolated cases with only a few architects and educators involved. Others represent general participation and acceptance. The important breakthroughs are:

1. GROUP DYNAMICS OF PLANNING: At last the architects, the engineers, the educators and the patrons are beginning to learn that teamwork pays off in better school design. We hate to admit this, but architects alone cannot produce truly functional school plants.
2. RESEARCH APPROACH: A few, but influential, creative architects, working together with creative educators, have made substantial progress through a research attitude approach to solving school building problems. They are never satisfied with

Roland Chatham

Group dynamics played an important part in the planning and design of the new high school for College Station, Texas.

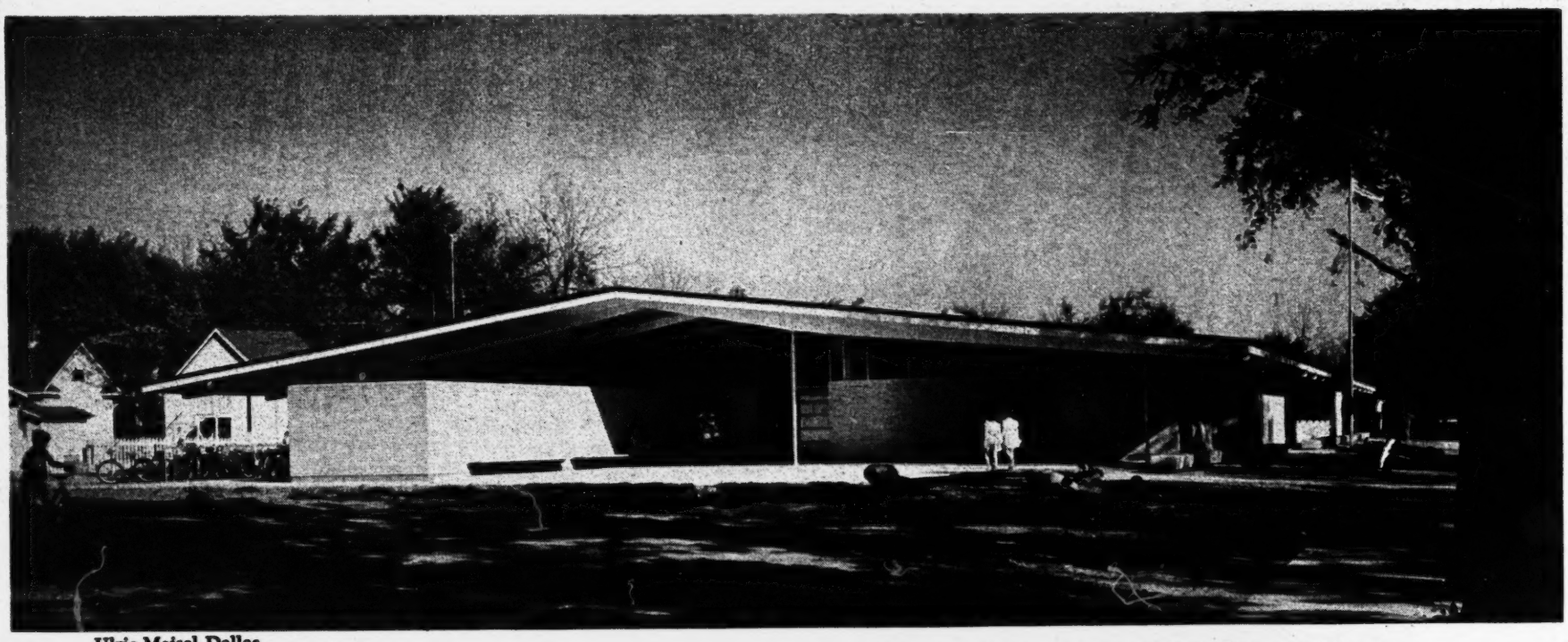
Ulric Meisel-Dallas



All kinds of plan types are at the disposal of school planners. The elementary school for Clinton, Oklahoma, is a far cry from the traditional double loaded corridor scheme once so common in school design.

just answers, but continually search for a *better* answer to problems of educational feasibility, lighting, sound, heating, ventilation and structures.

3. PLAN TYPES: School planners are beginning to realize that in order to solve their problems they must have at their disposal all kinds of plan types —finger plans, quadruplexes, campus plans, back-to-back arrangements, single loaded corridors, double loaded corridors, combinations of the two, spoke-wheels or any other combination of geometric arrangement—and that the traditional, code-dictated double loaded corridor arrangement is just one of many.
4. LEARNING WALLS: Thinking school planners no longer consider the classroom wall as a mere wall, but as a vertical teaching surface—an educational tool.
5. OUTDOOR LEARNING: The concept that learning is not limited to the classroom shell—that it does not stop at the door threshold or the window sill—is opening up new opportunities for effective and economical educational facilities.
6. TEACHING SPACE DIVIDERS: One of the major breakthroughs of recent years is the use of the teaching space dividers which are in essence pieces of educational furniture used to subdivide a large loft space into teaching stations—an economical and effective answer to the cry for flexible classroom wings.
7. STUDENT CENTER: The slow but final recognition



Ulric Meisel-Dallas

The low ceilings of the elementary school in Miami, Oklahoma, are the result of research which has proved that low, economical ceilings can be placed over spaces which are well lighted and ventilated.

Hedrich-Blessing

Humanistic architecture has helped to create a colorful, warm and friendly atmosphere in the elementary school in Bartlesville, Oklahoma.

that every school should be designed to be the nicest place in town for youth to work and live has given school architecture and the children the so-called student center or commons—the living room of the school plant for social development and relaxation.

8. LOW CEILINGS: Research in lighting and ventilation has led the way to the use of lower and more economical ceilings over better lighted and better ventilated spaces.
9. RENAISSANCE OF TOP LIGHTING: Improved lighting techniques, materials and flashing methods allow school buildings to be more economically compact, better lighted and better adapted for maximum flexibility.
10. LANDSCAPING: The acceptance that a successful school plant is more than a building situated in the middle of a city block with a Christmas tree-like plant on each side of a main entrance, has given us beautiful, functional sites with terraces, screens and outdoor teaching spaces, as well as green lawns.
11. MOVABLE EQUIPMENT: Another breakthrough for education has been the development of movable furniture and equipment to facilitate the activity concept of learning.
12. HUMANISTIC ARCHITECTURE: More and more school planners have accepted the premise that architecture can help the child to grow and develop mentally, physically, emotionally and socially. They have made a great effort to produce humanistic architecture, resulting in a healthful, functional, non-confining, colorful, warm, friendly environment for children.

Ulric Meisel-Dallas

Outdoor areas are an important aspect of the overall design of a school. Chevron brick walls on the playground of the Florence Black Elementary School, Mesquite, Texas, act as windbreaks for the open play area. The all-purpose room at the rear has sliding glass doors to open the area to the outdoors.

CONCLUSIONS:

These breakthroughs and barriers spell out what has been done and what we think needs to be done to give our children and teachers better school plants. To sum it up—the accomplishments are many but our job is by no means complete. We in America are a long way from achieving the best in school architecture. We must continue to break through the barriers which tend to stifle creativity in school architecture.